REMARKS

Claims 21 and 22 are rejected under 35 U.S.C. 112 first paragraph as failing to comply with the written description requirement. Claims 21 and 22 have been cancelled.

Claims 1-2, 5-6, 8 and 11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hamanaka et al. (EP 0,911,144) in view of Galarneau et al. (U.S. 5,597,613).

Regarding Claim 1 the Examiner states in part:

> The rejection of Claim 1 ...acknowledges that Hamanaka et al. is silent toward having gaps and explains why it would be obvious to include gaps. Hamanaka et al. is silent toward providing a first and second stamper each comprising of [sic] a mold and being separated by a gap. One skilled in the art would have readily appreciated that the microlens arrays from the teachings of Hamanaka et al. could be made using multiple stampers that are separated by gaps. The resin would be applied to the stampers, a large glass substrate would be placed on the resin in the stamper molds, and then the substrate would be diced. It is well known to use multiple stampers as shown for example by Galarneau et al. who teaches using quartz master elements (stampers) for tiling a large diffractive optical element (Column 1, line 49-Column 2, line 35; Column 5, line 45 - Column 6, line 12). The gaps (dicing areas) from the single stamper with the plurality of concave portions would correspond to the gaps that would separate the multiple stampers. One skilled in the art would have readily recognized that the two are alternate expedients which are obvious over one another in the absence of unexpected results and results in the same end product (microlens arrays). It is noted that the specification describes no criticality for having multiple stampers rather than one large stamper with multiple stamping regions separated from one another as shown for example in Figure 5 of Hamanaka et al. Also, one skilled in the art would have readily appreciated that using multiple stampers reduces manufacturing costs and provides additional weight reduction (Galarneau et al.: Column 1, lines 49-56). It would have been obvious to one of ordinary skill in the art at the time of invention was made to use multiple stampers that have molds in the method of Hamanaka et al. as suggested by Galarneau et al.

Applicants respectfully traverse the rejection. As noted in the previous Office Action response by the Applicants, the term "gap" as used in Claim 1 and defined in the Specification has dimensions associated with it that are nonobvious over Hamanaka et al. (EP 0,911,144) in view of Galarneau et al. (U.S. 5,597,613). As noted previously, the Specification states, "the separation distance d sets the approximate height [depth] and area dimensions needed for the size of gap 191 so that the excess optically curable polymer 115 will collect in gap 191 instead of forming a thick film over substrate 120. If gap 191 has the appropriate dimensions as determined from the separation distance d, optically curable polymer 115 will tend to move vertically up the sides of gap 191 as molds 145 and substrate 120 are brought together, reducing the thickness of the film formed on the surface of substrate (page 4, line 25 - page 5 line 6). It is apparent that the dimensions of the "gap" depend on the specific properties of the optically curable polymer that is used. The dimensions of the "gap" recited in Claim 1 are determined in a fundamentally different way from the dimensions of "trap portion 3" disclosed by Hamanaka et al. Clearly, the "gap" as defined in the instant application is designed to provide more volume for holding excess polymer for the same spacing between elements than would be suggested by Hamanaka et al. in view of Galarneau . Hence, it would not have been obvious to one skilled in the art at the time to combine the two references to create a "gap" as defined in the instant application. Therefore, the "gap" as defined in the instant application is neither disclosed, taught nor suggested by Hamanaka et al. in view of Galarneau and Claim 1 is patentable over Hamanaka et al. (EP 0,911,144) in view of Galarneau et al. (U.S. 5,597,613).

Claims 2, 5-6, 8 and 11 depend from Claim 1 and are patentable over Hamanaka et al. (EP 0,911,144) in view of Galarneau et al. (U.S. 5,597,613) for at least the same reasons as Claim 1.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamanaka et al. (EP 0,911,144) in view of Galarneau et al. (U.S. Patent No. 5,597,613), as applied to Claims 1-2, 5-6, 8 and 11, and further in view of Kondo (U. S. Patent No. 6,653,157). Applicants respectfully traverse the rejection. Hamanaka et al. (EP 0,911,144) in view of Galarneau et al. (U.S. 5,597,613), as applied to Claims 1-2, 5-6, 8 and 11, and further in view of Kondo do not disclose, teach or suggest a "gap" as recited in Claim 1 and as defined in the specification. The dimensions of the "gap" recited in Claim 1 are determined in a fundamentally different way from the dimensions of "trap portion 3" disclosed by Hamanaka et al. Clearly, the "gap" as defined in the instant application is designed to provide more volume for holding excess polymer for the same spacing between elements than would be suggested by Hamanaka et al. in view of Galarneau . Hence, it would not have been obvious to one skilled in the art at the time to combine the two references to create a "gap" as defined in the instant application. Therefore, Claim 3 which depends from Claim 1 is patentable over Hamanaka et al. (EP 0,911,144) in view of Galarneau et al. (U.S. Patent No. 5,597,613), and further in view of Kondo (U.S. Patent No. 6,653,157).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamanaka et al. (EP 0, 911, 144) in view of Galarneau et al. (U.S. Patent No. 5,597,613), as applied to Claims 1-2, 5-6, 8 and 11, and further in view of Nishikawa et al. (U.S. Patent No.

6,730,459). Applicants respectfully traverse the rejection. Hamanaka et al. (EP 0, 911, 144) in view of Galarneau et al. (U.S. Patent No. 5,597,613), as applied to Claims 1-2, 5-6, 8 and 11, and further in view of Nishikawa et al. (U.S. Patent No. 6,730,459) do not disclose, teach or suggest a "gap" as recited in Claim 1 and defined in the specification. The dimensions of the "gap" recited in Claim 1 are determined in a fundamentally different way from the dimensions of "trap portion 3" disclosed by Hamanaka et al. Clearly, the "gap" as defined in the instant application is designed to provide more volume for holding excess polymer for the same spacing between elements than would be suggested by Hamanaka et al. in view of Galarneau . Hence, it would not have been obvious to one skilled in the art at the time to combine the two references to create a "gap" as defined in the instant application. Hence, Claim 4 which depends from Claim 1 is patentable over Hamanaka et al. (EP 0, 911, 144) in view of Galarneau et al. (U.S. Patent No. 5,597,613), and further in view of Nishikawa et al. (U.S. Patent No. 6,730,459).

Claims 7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamanaka et al. (EP 0, 911, 144) in view of Galarneau et al. (U.S. Patent No. 5,597,613), as applied to Claims 1-2, 5-6, 8 and 11, and further in view of Morita (U.S. Patent No. 6,814,897). Applicants respectfully traverse the rejection. Hamanaka et al. (EP 0, 911, 144) in view of Galarneau et al. (U.S. Patent No. 5,597,613), as applied to Claims 1-2, 5-6, 8 and 11, and further in view of Morita (U.S. Patent No. 6,814,897) do not disclose, teach or suggest a "gap" as recited in Claim 1 and defined in the specification. The dimensions of the "gap" recited in Claim 1 are determined in a fundamentally different

way from the dimensions of "trap portion 3" disclosed by Hamanaka et al. Clearly, the "gap" as defined in the instant application is designed to provide more volume for holding excess polymer for the same spacing between elements than would be suggested by Hamanaka et al. in view of Galarneau . Hence, it would not have been obvious to one skilled in the art at the time to combine the two references to create a "gap" as defined in the instant application. Hence, Claims 7 and 12 which depend from Claim 1 are patentable over Hamanaka et al. (EP 0, 911, 144) in view of Galarneau et al. (U.S. Patent No. 5,597,613) and further in view of Morita (U.S. Patent No. 6,814,897).

Claims 9-10, 13-14 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamanaka et al. (EP 0, 911,144) in view of Galarneau et al. (U.S. Patent No. 5,597,613), and further in view of Morita (U.S. Patent No. 6,814,897), as applied to Claims 1-2, 5-7 and 11-12, and further in view of Harden et al. (U.S. Patent No. 6,610,166). Applicants respectfully traverse the rejection. Hamanaka et al. (EP 0, 911,144) in view of Galarneau et al. (U.S. Patent No. 5,597,613), and further in view of Morita (U.S. Patent No. 6,814,897), as applied to Claims 1-2, 5-7 and 11-12, and further in view of Harden et al. (U.S. Patent No. 6,610,166) do not disclose, teach or suggest a "gap" as recited in Claim 1 and defined in the specification. The dimensions of the "gap" recited in Claim 1 are determined in a fundamentally different way from the dimensions of "trap portion 3" disclosed by Hamanaka et al. Clearly, the "gap" as defined in the instant application is designed to provide more volume for holding excess polymer for the same spacing between elements than would be suggested by Hamanaka et al. in view of Galarneau . Hence, it would not have been obvious to one skilled in the art at the time to

combine the two references to create a "gap" as defined in the instant application. Hence, Claims 9-10, 13-14 and 16-18 which depend from Claim 1 are patentable over Hamanaka et al. (EP 0, 911,144) in view of Galarneau et al. (U.S. Patent No. 5,597,613), further in view of Morita (U.S. Patent No. 6,814,897) and further in view of Harden et al. (U.S. Patent No. 6,610,166).

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamanaka et al. (EP 0, 911,144) in view of Galarneau et al. (U.S. Patent No. 5,597,613), and further in view of Morita (U.S. Patent No. 6,814,897), as applied to Claims 1-2, 5-7 and 11-12 and further in view of Uehara (U.S. Patent No. 4,566,930) and Takakuwa et al. (U.S. Patent No. 6,280,660). Applicants respectfully traverse the rejection. Hamanaka et al. (EP 0, 911,144) in view of Galarneau et al. (U.S. Patent No. 5,597,613), and further in view of Morita (U.S. Patent No. 6,814,897), as applied to Claims 1-2, 5-7 and 11-12 and further in view of Uehara (U.S. Patent No. 4,566,930) and Takakuwa et al. (U.S. Patent No. 6,280,660) do not disclose, teach or suggest a "gap" as recited in Claim 1 and defined in the specification. The dimensions of the "gap" recited in Claim 1 are determined in a fundamentally different way from the dimensions of "trap portion 3" disclosed by Hamanaka et al. Clearly, the "gap" as defined in the instant application is designed to provide more volume for holding excess polymer for the same spacing between elements than would be suggested by Hamanaka et al. in view of Galarneau . Hence, it would not have been obvious to one skilled in the art at the time to combine the two references to create a "gap" as defined in the instant application. Hence, Claim 14 which depends from Claim 1 is patentable over Hamanaka et al. (EP 0, 911,144) in view of Galarneau et al.

(U.S. Patent No. 5,597,613), further in view of Morita (U.S. Patent No. 6,814,897) and further in view of Uehara (U.S. Patent No. 4,566,930) and Takakuwa et al. (U.S. Patent No. 6,280,660).

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamanaka et al. (EP 0, 911,144) in view of Galarneau et al. (U.S. Patent No. 5,597,613), and further in view of Morita (U.S. Patent No. 6,814,897), as applied to Claims 1-2, 5-7 and 11-12 and further in view of Fujita (U.S. 2004/0090571). Applicants respectfully traverse the rejection. Hamanaka et al. (EP 0, 911,144) in view of Galarneau et al. (U.S. Patent No. 5,597,613), and further in view of Morita (U.S. Patent No. 6,814,897), as applied to Claims 1-2, 5-7 and 11-12 and further in view of Fujita (U.S. 2004/0090571) do not disclose, teach or suggest a "gap" as recited in Claim 1 and defined in the specification. The dimensions of the "gap" recited in Claim 1 are determined in a fundamentally different way from the dimensions of "trap portion 3" disclosed by Hamanaka et al. Clearly, the "gap" as defined in the instant application is designed to provide more volume for holding excess polymer for the same spacing between elements than would be suggested by Hamanaka et al. in view of Galarneau . Hence, it would not have been obvious to one skilled in the art at the time to combine the two references to create a "gap" as defined in the instant application. Hence, Claim 15 which depends from Claim 1 is patentable over Hamanaka et al. (EP 0, 911,144) in view of Galarneau et al. (U.S. Patent No. 5,597,613), further in view of Morita (U.S. Patent No. 6,814,897) and further in view of Fujita (U.S. 2004/0090571).

Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamanaka et al. (EP 0, 911,144) in view of Galarneau et al. (U.S. Patent No. 5,597,613), further in view of Morita (U.S. Patent No. 6,814,897), as applied to Claims 1-2, 5-7 and 11-12 and further in view of Houlihan et al. (U.S. Patent No. 6,700,708). Applicants respectfully traverse the rejection. Hamanaka et al. (EP 0, 911,144) in view of Galarneau et al. (U.S. Patent No. 5,597,613), further in view of Morita (U.S. Patent No. 6,814,897), as applied to Claims 1-2, 5-7 and 11-12 and further in view of Houlihan et al. (U.S. Patent No. 6,700,708) do not disclose, teach or suggest a "gap" as recited in Claim 1 and defined in the specification. The dimensions of the "gap" recited in Claim 1 are determined in a fundamentally different way from the dimensions of "trap portion 3" disclosed by Hamanaka et al. Clearly, the "gap" as defined in the instant application is designed to provide more volume for holding excess polymer for the same spacing between elements than would be suggested by Hamanaka et al. in view of Galarneau . Hence, it would not have been obvious to one skilled in the art at the time to combine the two references to create a "gap" as defined in the instant application. Hence, Claims 19-20 which depend from Claim 1 are patentable over Hamanaka et al. (EP 0, 911,144) in view of Galarneau et al. (U.S. Patent No. 5,597,613), further in view of Morita (U.S. Patent No. 6,814,897) and further in view of Houlihan et al. (U.S. Patent No. 6,700,708).

Therefore, Claims 1-20 are in condition for allowance and allowance is respectfully requested. Claims 21-22 have been cancelled. Should the Examiner wish to discuss any aspect of the application he is invited to telephone the undersigned at (650) 485-5904.

Respectfully submitted,

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